

ENGINEERING STATEMENT
REQUEST FOR SPECIAL TEMPORARY AUTHORITY
FOR EARLY DTV OPERATION ON
POST-TRANSITION CHANNEL
KQCW(TV), MUSKOGEE, OKLAHOMA
CHANNEL 20 550 KW ERP 252 METERS HAAT

JANUARY 2009

COHEN, DIPPELL AND EVERIST, P.C.
CONSULTING ENGINEERS
RADIO AND TELEVISION
WASHINGTON, D.C.

COHEN, DIPPELL AND EVERIST, P. C.

City of Washington)
) ss
District of Columbia)


Ross J. Heide, being duly sworn upon his oath, deposes and states that:

He is a graduate of the Massachusetts Institute of Technology in Operations Research and Management Science, a Registered Professional Engineer in the District of Columbia, and employed by Cohen, Dippell and Everist, P.C., Consulting Engineers, Radio - Television, with offices at 1300 L Street, N.W., Suite 1100, Washington, D.C. 20005;

That the attached engineering report was prepared by him or under his supervision and direction and

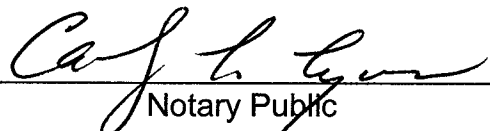
That the facts stated herein are true of his own knowledge, except such facts as are stated to be on information and belief, and as to such facts he believes them to be true.





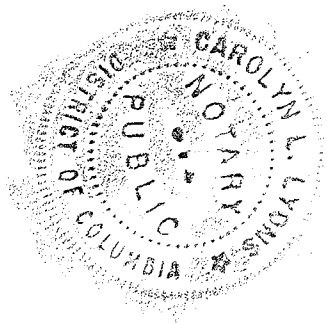
Ross J. Heide
District of Columbia
Professional Engineer
Registration No. PE900748

Subscribed and sworn to before me this 26th day of January, 2009.



Notary Public

My Commission Expires: 2/28/2013



Introduction

This engineering statement has been prepared on behalf of Griffin Tulsa II Licensing, L.L.C., ("KQCW") licensee of TV station KQCW(TV), Muskogee, Oklahoma, as part of its request for Special Temporary Authority ("STA") to operate its post-transition facilities beginning February 17, 2009. At present, KQCW is licensed on NTSC TV Channel 19 (500-506 MHz) with 5000 kW effective radiated power ("ERP") horizontal polarization (3360 kW vertical) and 252 meters antenna height above average terrain ("HAAT"). The current analog Channel 19 operation of KOTV is non-directional with reduced power of 2500 kW ERP (horizontal polarization). Station KOTV has been allotted Channel 20 (506-512 MHz) for its digital TV operation and been authorized to construct a facility (BPCDT-20080317AFI) with 550 kW non-directional horizontal ERP and 252 meters HAAT.¹ KQCW-DT proposes to operate DTV Channel 20 from the currently licensed antenna on the same tower with 550 kW non-directional horizontally polarized ERP at an HAAT of 252 meters. This filing is in accordance with procedures of the Third Periodic Review.²

Antenna Site

There is no change in the proposed antenna site. The proposed DTV Channel 20 antenna is top-mounted on the tower (Exhibit E-1) at 229.3 meters above ground level. The KQCW antenna site is located at approximately 3 km east-northeast of Bald Hill. The KQCW antenna structure registration number is 1062616.

The geographic coordinates of the existing tower are as follows:

North Latitude: 35° 45' 08"

West Longitude: 95° 48' 15"

NAD-27

¹A construction permit has also been granted for KOTV-DT to construct facilities at another site of 1000 kW with HAAT of 498 meters (BMPCDT-20080620AMN).

²"In the Matter of Third Periodic Review of the Commission's Rules and Policies Affecting the Conversion to Digital Television", MB Docket No. 07-91, Report & Order (FCC 07-228), Released December 31, 2007.

The following data shows the pertinent information concerning the intended reduced-power operation.

Power Data

Intended Transmitter Output	30.4 kW	14.83 dBk
Existing Transmission Line Efficiency/Loss	90.7%	-0.424 dB
Input to Existing Antenna	27.6 kW	14.41 dBk
Antenna Power Gain	Horizontal Polarization 19.9 Vertical Polarization 13.4	12.99 dB 11.27 dB
Effective Radiated Power	Horizontal Polarization 550 kW Vertical Polarization 370 kW	27.40 dBk 25.7 dBk

Antenna Data

Antenna: Dielectric, TFU-31 ETT/DP-R O6. The vertical plane pattern and other exhibits required by Section 73.625(c) are included herein as Exhibit E-2.

Beam Tilt 0.5° electrical

Transmission Line: 236.2 meters (775 ft) Dielectric DTW-1750 (17.5" transverse) waveguide

Elevation Data

Elevation of the site above mean sea level:	231.6 meters 759.8 feet
Elevation of the top of existing supporting structure above ground including appurtenances	240.5 meters 789 feet
Elevation of the top of supporting structure above mean sea level including appurtenances	472.1 meters 1548.9 feet
Height of Channel 20 antenna radiation center meters above ground	229.3 meters 752.3 feet
Height of Channel 20 antenna radiation center above mean sea level	460.9 meters 1512.1 feet
Height of antenna radiation center above average terrain	252 meters 826.8 feet

Interference Protection

The proposed STA operation protects all potentially affected pre-transition TV, DTV and Class A operations. As the proposed KQCW-DT STA operation is equivalent to that authorized in the Table of Allotments, no impermissible interference is caused to any post-transition DTV allotment, license, CP or application. These stations are listed in Table 1.

Principal Community Coverage

The Commission requires DTV stations to place a stronger signal over the principal community. The requested operation of Station KQCW-DT places a predicted 47 dBu contour over the community of license.

ABOVE MEAN SEA LEVEL

ABOVE GROUND

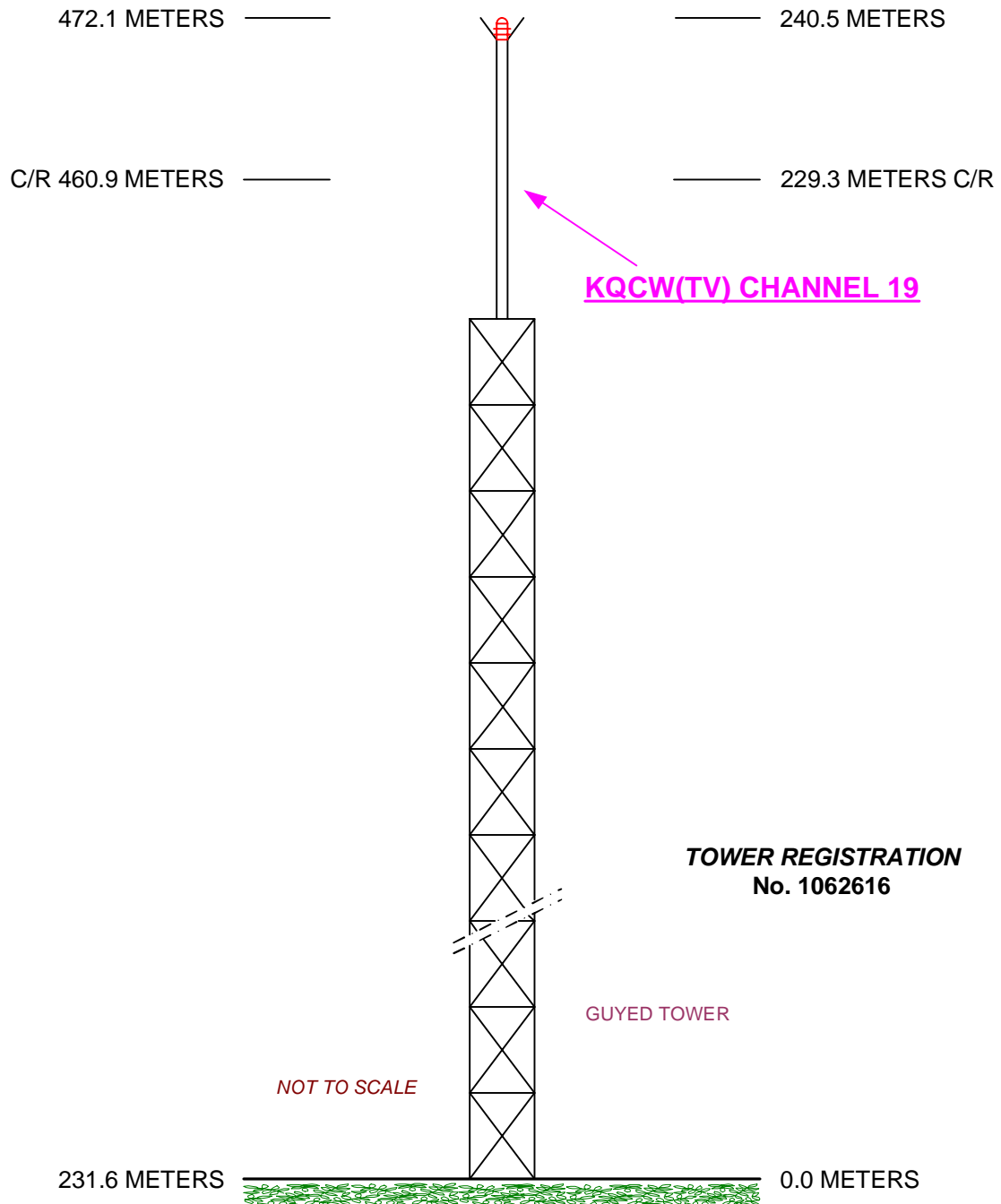


EXHIBIT E-1
VERTICAL SKETCH
FOR THE PROPOSED OPERATION OF
KQCW(TV), MUSKOGEE, OKLAHOMA
OCTOBER 2008

COHEN, DIPPELL AND EVERIST, P.C.

EXHIBIT E-2

ANTENNA MANUFACTURER DATA

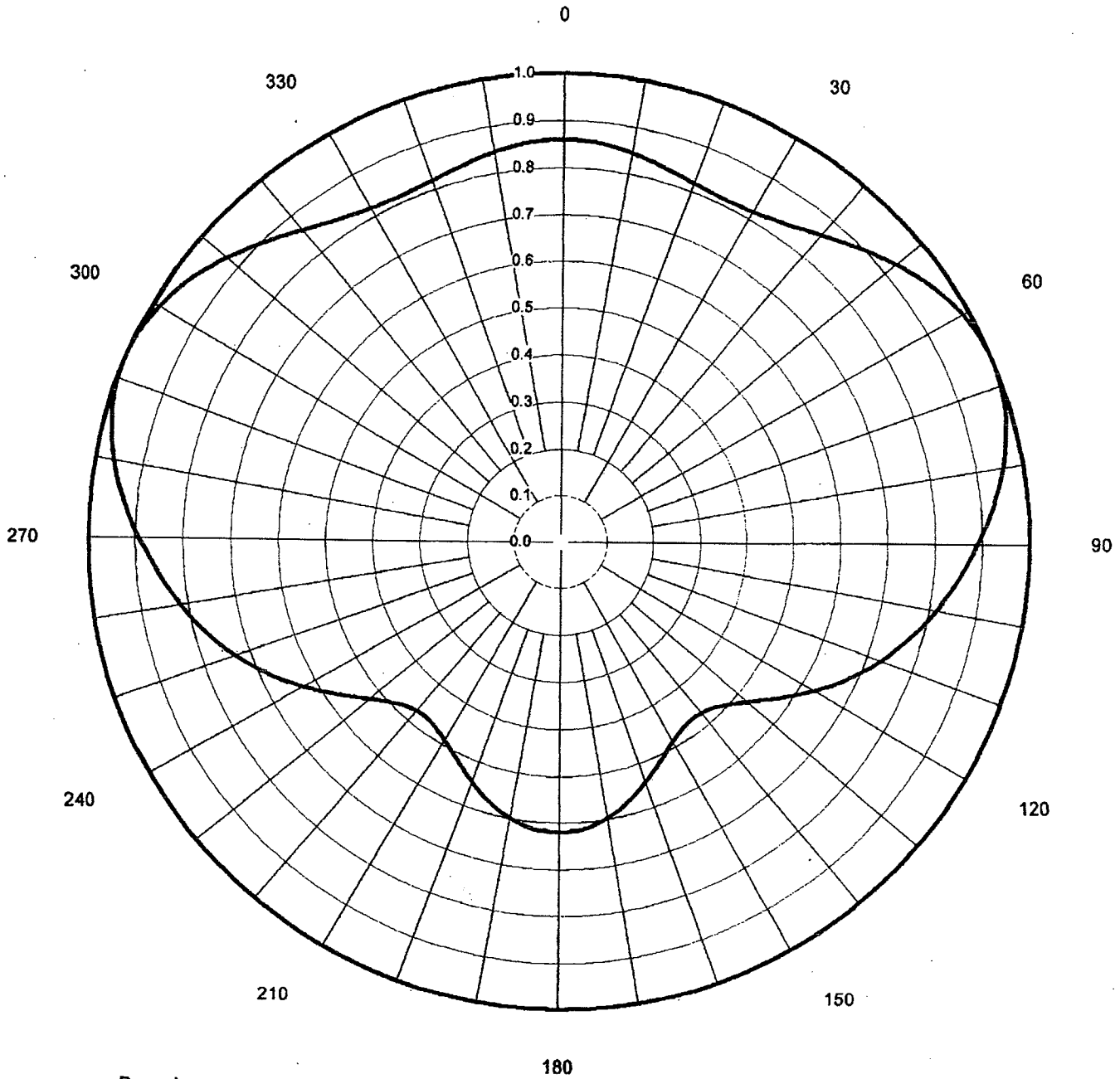
KQCW(TV), MUSKOGEE, OKLAHOMA

Date	1-Mar-99	Channel	19
Call Letters			
Location	Muskogee, OK		
Customer			
Antenna Type	TFU-31ETT/DP-R 06		

AZIMUTH PATTERN/Vertical Polarization

Gain	1.65	(2.17 dB)
Calculated / Measured		Calculated

Frequency	503.00 MHz
Drawing #	TFU-DP165-19



Date
Call Letters
Location
Customer
Antenna Type

1-Mar-99
Muskogee, OK
TFU-31ETT/DP-R 06

Channel 19

TABULATION OF AZIMUTH PATTERN/Vertical Polarization

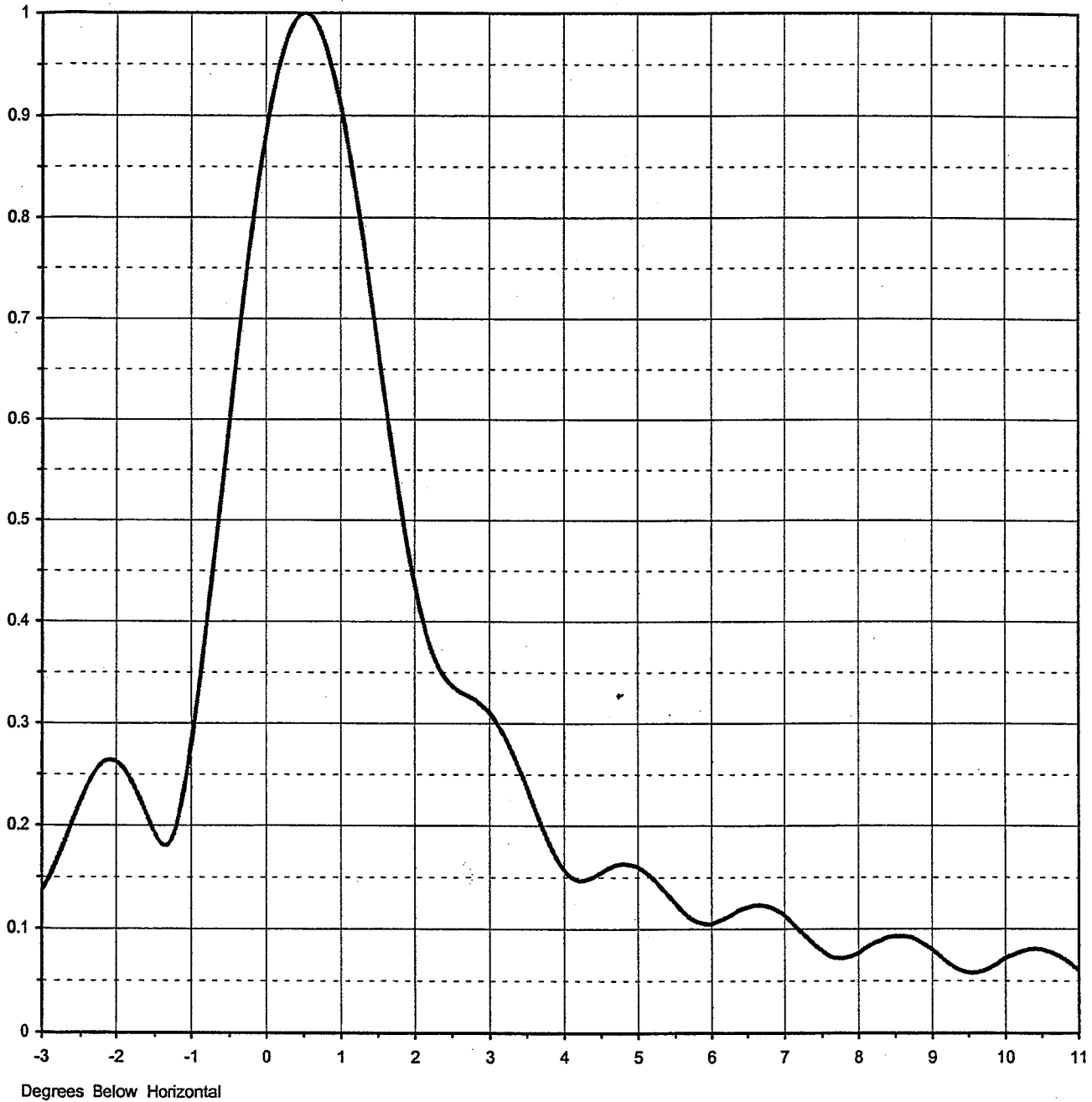
Azimuth Pattern Drawing #: TFU-DP165-19

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
0	0.859	45	0.893	90	0.891	135	0.492	180	0.621	225	0.492	270	0.891	315	0.893
1	0.859	46	0.901	91	0.884	136	0.487	181	0.620	226	0.498	271	0.899	316	0.886
2	0.858	47	0.908	92	0.877	137	0.482	182	0.620	227	0.505	272	0.906	317	0.879
3	0.858	48	0.915	93	0.869	138	0.479	183	0.619	228	0.512	273	0.913	318	0.873
4	0.857	49	0.922	94	0.862	139	0.476	184	0.617	229	0.520	274	0.920	319	0.866
5	0.855	50	0.929	95	0.854	140	0.474	185	0.615	230	0.528	275	0.927	320	0.860
6	0.853	51	0.936	96	0.847	141	0.472	186	0.612	231	0.537	276	0.934	321	0.854
7	0.851	52	0.943	97	0.839	142	0.472	187	0.609	232	0.547	277	0.940	322	0.848
8	0.849	53	0.950	98	0.832	143	0.472	188	0.606	233	0.556	278	0.947	323	0.843
9	0.847	54	0.956	99	0.824	144	0.472	189	0.602	234	0.566	279	0.953	324	0.838
10	0.844	55	0.962	100	0.816	145	0.474	190	0.598	235	0.577	280	0.959	325	0.833
11	0.841	56	0.968	101	0.808	146	0.476	191	0.594	236	0.587	281	0.964	326	0.829
12	0.839	57	0.973	102	0.800	147	0.478	192	0.589	237	0.598	282	0.970	327	0.825
13	0.836	58	0.978	103	0.792	148	0.482	193	0.584	238	0.608	283	0.975	328	0.822
14	0.833	59	0.982	104	0.784	149	0.485	194	0.579	239	0.619	284	0.979	329	0.819
15	0.830	60	0.986	105	0.776	150	0.489	195	0.574	240	0.630	285	0.984	330	0.817
16	0.827	61	0.990	106	0.767	151	0.494	196	0.568	241	0.641	286	0.987	331	0.815
17	0.825	62	0.993	107	0.759	152	0.499	197	0.562	242	0.652	287	0.991	332	0.814
18	0.822	63	0.995	108	0.750	153	0.504	198	0.557	243	0.662	288	0.993	333	0.813
19	0.820	64	0.997	109	0.741	154	0.509	199	0.551	244	0.673	289	0.996	334	0.813
20	0.818	65	0.999	110	0.732	155	0.515	200	0.545	245	0.683	290	0.998	335	0.812
21	0.816	66	1.000	111	0.722	156	0.521	201	0.539	246	0.693	291	0.999	336	0.813
22	0.815	67	1.000	112	0.713	157	0.527	202	0.533	247	0.703	292	1.000	337	0.814
23	0.814	68	1.000	113	0.703	158	0.533	203	0.527	248	0.713	293	1.000	338	0.815
24	0.813	69	0.999	114	0.693	159	0.539	204	0.521	249	0.722	294	1.000	339	0.816
25	0.812	70	0.998	115	0.683	160	0.545	205	0.515	250	0.732	295	0.999	340	0.818
26	0.813	71	0.996	116	0.673	161	0.551	206	0.509	251	0.741	296	0.997	341	0.820
27	0.813	72	0.993	117	0.662	162	0.557	207	0.504	252	0.750	297	0.995	342	0.822
28	0.814	73	0.991	118	0.652	163	0.562	208	0.499	253	0.759	298	0.993	343	0.825
29	0.815	74	0.987	119	0.641	164	0.568	209	0.494	254	0.767	299	0.990	344	0.827
30	0.817	75	0.984	120	0.630	165	0.574	210	0.489	255	0.776	300	0.986	345	0.830
31	0.819	76	0.979	121	0.619	166	0.579	211	0.485	256	0.784	301	0.982	346	0.833
32	0.822	77	0.975	122	0.608	167	0.584	212	0.482	257	0.792	302	0.978	347	0.836
33	0.825	78	0.970	123	0.598	168	0.589	213	0.478	258	0.800	303	0.973	348	0.839
34	0.829	79	0.964	124	0.587	169	0.594	214	0.476	259	0.808	304	0.968	349	0.841
35	0.833	80	0.959	125	0.577	170	0.598	215	0.474	260	0.816	305	0.962	350	0.844
36	0.838	81	0.953	126	0.566	171	0.602	216	0.472	261	0.824	306	0.956	351	0.847
37	0.843	82	0.947	127	0.556	172	0.606	217	0.472	262	0.832	307	0.950	352	0.849
38	0.848	83	0.940	128	0.547	173	0.609	218	0.472	263	0.839	308	0.943	353	0.851
39	0.854	84	0.934	129	0.537	174	0.612	219	0.472	264	0.847	309	0.936	354	0.853
40	0.860	85	0.927	130	0.528	175	0.615	220	0.474	265	0.854	310	0.929	355	0.855
41	0.866	86	0.920	131	0.520	176	0.617	221	0.476	266	0.862	311	0.922	356	0.857
42	0.873	87	0.913	132	0.512	177	0.619	222	0.479	267	0.869	312	0.915	357	0.858
43	0.879	88	0.906	133	0.505	178	0.620	223	0.482	268	0.877	313	0.908	358	0.859
44	0.886	89	0.899	134	0.498	179	0.620	224	0.487	269	0.884	314	0.901	359	0.859

Proposal Number	DCA-8198	
Date	24-Mar-99	
Call Letters	KWBT	Channel 19
Location	Muskogee, OK	
Customer		
Antenna Type	TFU-31ETT/DP-R 06	

ELEVATION PATTERN

RMS Gain at Main Lobe	28.00 (14.47 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	21.80 (13.38 dB)	Frequency	503.00 MHz
Calculated / Measured	Calculated	Drawing #	31E280050





A Unit of SPX Corporation

Proposal Number **DCA-8198**
 Date **24-Mar-99**
 Call Letters **KWBT** Channel **19**
 Location **Muskogee, OK**
 Customer
 Antenna Type **TFU-31ETT/DP-R 06**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **31E280050-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.072	2.4	0.345	10.6	0.080	30.5	0.041	51.0	0.026	71.5	0.025
-9.5	0.083	2.6	0.331	10.8	0.075	31.0	0.033	51.5	0.015	72.0	0.029
-8.0	0.054	2.8	0.323	11.0	0.066	31.5	0.014	52.0	0.017	72.5	0.033
-8.5	0.051	3.0	0.310	11.5	0.044	32.0	0.023	52.5	0.028	73.0	0.036
-8.0	0.091	3.2	0.287	12.0	0.060	32.5	0.038	53.0	0.035	73.5	0.037
-7.5	0.094	3.4	0.255	12.5	0.069	33.0	0.037	53.5	0.034	74.0	0.038
-7.0	0.062	3.6	0.218	13.0	0.050	33.5	0.021	54.0	0.027	74.5	0.036
-6.5	0.081	3.8	0.182	13.5	0.038	34.0	0.015	54.5	0.018	75.0	0.034
-6.0	0.121	4.0	0.157	14.0	0.058	34.5	0.032	55.0	0.017	75.5	0.031
-5.5	0.108	4.2	0.147	14.5	0.061	35.0	0.039	55.5	0.026	76.0	0.027
-5.0	0.073	4.4	0.151	15.0	0.040	35.5	0.030	56.0	0.033	76.5	0.023
-4.5	0.121	4.6	0.159	15.5	0.034	36.0	0.013	56.5	0.036	77.0	0.020
-4.0	0.164	4.8	0.163	16.0	0.054	36.5	0.022	57.0	0.032	77.5	0.018
-3.5	0.141	5.0	0.160	16.5	0.053	37.0	0.036	57.5	0.024	78.0	0.018
-3.0	0.137	5.2	0.149	17.0	0.032	37.5	0.036	58.0	0.017	78.5	0.019
-2.8	0.169	5.4	0.133	17.5	0.033	38.0	0.024	58.5	0.019	79.0	0.021
-2.6	0.208	5.6	0.117	18.0	0.052	38.5	0.012	59.0	0.027	79.5	0.024
-2.4	0.241	5.8	0.107	18.5	0.049	39.0	0.026	59.5	0.033	80.0	0.026
-2.2	0.261	6.0	0.105	19.0	0.027	39.5	0.037	60.0	0.036	80.5	0.027
-2.0	0.262	6.2	0.111	19.5	0.030	40.0	0.034	60.5	0.033	81.0	0.029
-1.8	0.243	6.4	0.119	20.0	0.048	40.5	0.020	61.0	0.027	81.5	0.029
-1.6	0.209	6.6	0.123	20.5	0.044	41.0	0.013	61.5	0.021	82.0	0.029
-1.4	0.182	6.8	0.121	21.0	0.024	41.5	0.027	62.0	0.020	82.5	0.029
-1.2	0.201	7.0	0.113	21.5	0.029	42.0	0.036	62.5	0.025	83.0	0.028
-1.0	0.282	7.2	0.099	22.0	0.046	42.5	0.033	63.0	0.031	83.5	0.026
-0.8	0.400	7.4	0.085	22.5	0.043	43.0	0.020	63.5	0.035	84.0	0.024
-0.6	0.532	7.6	0.074	23.0	0.022	43.5	0.013	64.0	0.036	84.5	0.022
-0.4	0.664	7.8	0.072	23.5	0.026	44.0	0.026	64.5	0.033	85.0	0.020
-0.2	0.784	8.0	0.077	24.0	0.043	44.5	0.035	65.0	0.027	85.5	0.018
0.0	0.883	8.2	0.086	24.5	0.041	45.0	0.034	65.5	0.021	86.0	0.015
0.2	0.954	8.4	0.092	25.0	0.022	45.5	0.023	66.0	0.019	86.5	0.013
0.4	0.993	8.6	0.093	25.5	0.023	46.0	0.013	66.5	0.022	87.0	0.010
0.6	0.998	8.8	0.089	26.0	0.041	46.5	0.022	67.0	0.028	87.5	0.008
0.8	0.969	9.0	0.080	26.5	0.042	47.0	0.033	67.5	0.033	88.0	0.006
1.0	0.910	9.2	0.068	27.0	0.024	47.5	0.035	68.0	0.036	88.5	0.004
1.2	0.826	9.4	0.060	27.5	0.017	48.0	0.029	68.5	0.037	89.0	0.002
1.4	0.726	9.6	0.058	28.0	0.036	48.5	0.017	69.0	0.035	89.5	0.001
1.6	0.621	9.8	0.060	28.5	0.041	49.0	0.016	69.5	0.032	90.0	0.000
1.8	0.520	10.0	0.067	29.0	0.028	49.5	0.027	70.0	0.028		
2.0	0.436	10.2	0.075	29.5	0.014	50.0	0.035	70.5	0.024		
2.2	0.377	10.4	0.080	30.0	0.031	50.5	0.034	71.0	0.024		

Post Office Box 949, 22 Tower Road, Raymond, Maine 04071

Voice: 207-655-4555 1-800-341-9678 Fax: 207-655-7120 Email: dcsales@dielectric.com

COHEN, DIPPELL AND EVERIST, P.C.

TABLE 1
LONGLEY-RICE INTERFERENCE ANALYSIS
FOR THE REQUESTED STA OPERATION OF
KQCW(TV), MUSKOGEE, OKLAHOMA
CHANNEL 20 550 KW ERP 252 METERS RCAMSL
JANUARY 2009

<u>Channel</u>	<u>Call</u>	<u>City/State</u>	<u>Dist(km)</u>	<u>Status</u>	<u>FCC File No.</u>	<u>Result</u>
17	KDOR	BARTLESVILLE OK	85.0	LIC	BLCT-19870120LH	No interference
18	NEW	MCALESTER OK	75.5	CP	BDCCDTL-20061027ADF	No interference
19	KUOT-CA	OKLAHOMA CITY OK	155.8	LIC	BLTTA-20040811ADD	No interference
19	KUOT-CA	OKLAHOMA CITY OK	155.8	CP	BPTTA-20060111ACN	No interference
20	KKYK-LP	LITTLE ROCK AR	318.3	LIC	BLTTA-20021227ABA	No interference
20	KTEW-CA	PONCA CITY OK	143.5	APP	BSTA-20080617ACG	No interference
20	KOKT-LP	SULPHUR OK	195.1	LIC	BLTTL-19970414JA	No interference
20	KXII-DT	SHERMAN TX	211.6	LIC	BLCDT-20020419AAG	No interference
20	960920YP	SHERMAN TX	265.6	APP	BPCT-19960920YP	No interference
20	KXII-DT	SHERMAN TX	211.6	PLN	DTVPLN-DTVP0398	No interference
20	K20DL	TYLER TX	380	LIC	BLTTL-19940407JL	No interference
20	K20DN	WICHITA FALLS TX	319.8	LIC	BLTTL-19931112IA	No interference
21	KHBS-DT	FORT SMITH AR	127	LIC	BLCDT-20031121AMR	No interference
21	KHBS-DT	FORT SMITH AR	126.9	PLN	DTVPLN-DTVP0405	No interference
21	KTOU-LP	OKLAHOMA CITY OK	158.5	LIC	BLTTL-20011116ABI	No interference
23	KOKI-TV	TULSA OK	32.5	LIC	BLCT-20030416AAI	No interference